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Straw-Loft Poultry House Plan

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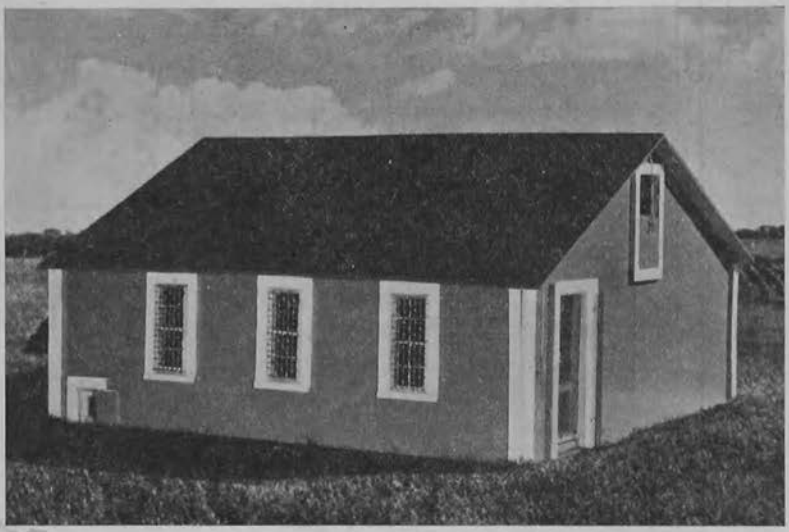

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THE STRAW-LOFT poultry house is nearly automatic in regulation of ventilation, thus making it ideal for the farm flock owner whose time is largely taken up with other farm activities. Good insulation is essential to effective ventilation, whatever the system used. In the present plan this is provided by means of a 6-inch filled wall on all four sides, which, with the thick layer of straw in the loft, retards changes in temperature in response to changes outside. This in turn reduces the risk of condensation of moisture and inadequate movement of air.

The size of the house, 24×24 feet, is suited to the needs of the average farm flock in Minnesota. The square shape was chosen with a view to making the working area more compact and convenient than in the long, narrow house. It also tends to reduce drafts and loss of heat while not increasing the cost. The pitch of the roof permits the economical use of shingles.

The house can be enlarged for the needs of a larger flock by increasing the length. However, when this is done it is necessary to provide outlets in addition to the windows in the ends of the gable. One roof vent 10 or 12 inches square for every 10 feet in length beyond 40 feet is sufficient.

It is important that plans be followed closely. Slight changes may seriously reduce the efficiency of the house and mistakes made are likely to prove costly. Yet the cost need not be prohibitive. Considerable savings can be made with the use of home labor and by using rough-sawed lumber for the interior.

Location of House

Choose a well-drained spot where the floor can be entirely above ground level and where light is not cut off by trees or by other buildings.

Foundation and Floor

Lay the 8-inch concrete foundation to a depth below ground sufficient to prevent heaving and cracking. Above ground, a 15-inch level provides for a fill of crushed rock or gravel. Tamp the fill material, cover with tar paper, and finish with a 3-inch layer of concrete spread with a smooth surface. A ½-inch layer of "expansion joint" spread next to the foundation before the floor mixture is placed, will aid materially in keeping the floor from cracking. Both floor and foundation should be further protected against cracking by means of iron rods or galvanized netting buried in the concrete. Before the concrete is set, anchor bolts must be embedded about 12 feet apart in the foundation and extending 3 inches above it.

Frame Construction—Two by six framing material is specified throughout. For the sidewalls this permits a fill (of flax straw or shavings) thick enough to insulate the house adequately.

Rafters and joists of the 6-inch material insure strength. Studdings, rafters, and joists are 2 feet apart on center.

Sills—A 2″×6″ member bolted down with anchor bolts set in the foundation. Additional tightness is insured by spreading fresh mortar on the top of the foundation before laying the sills.

Plate—A 2″×4″ member nailed to the top of the studdings.

Joists—2″×6″ members spiked to studdings below the plate are supported by a 1″×3″ ledger board which is notched into the studdings. In this manner the wall is left open at the top for filling, and for refilling as settling occurs.

Outside finish—Place tar paper over studdings and finish with 6-inch drop-siding, starting at a point low enough to cover the sill-foundation joint.

Inside finish—Place an asphalt-coated moisture-vaporproof paper over the studdings, lapping at the joints. Over this nail 1″×6″ dressed and matched lumber.

Insulation—Pack fill material (of flax straw or shavings) into side walls. If uncut flax straw is used, it may be easier to add the fill material from time to time as the sheathing is nailed in place.

Ceiling—Nail 1″×4″ flooring to joists, tight for 4 feet from front and rear walls, the remaining 16 feet through the center, the boards laid an inch apart. Finish the outer edges of the ceiling with quarter-round.

Roof—The roof is a quarter-pitch construction. One by 6-inch trusses from the rafters support the joists which form the loft.

Windows—It will be noted that the window provision is less than is ordinarily found. The shape of this house provides better lighting with fewer windows and thus heat loss is reduced. Cellar-sash windows beneath the droppings boards serve to light the rear of the floor. Windows are double-sash, hung on weights and pulleys, to be raised and lowered for ventilation.

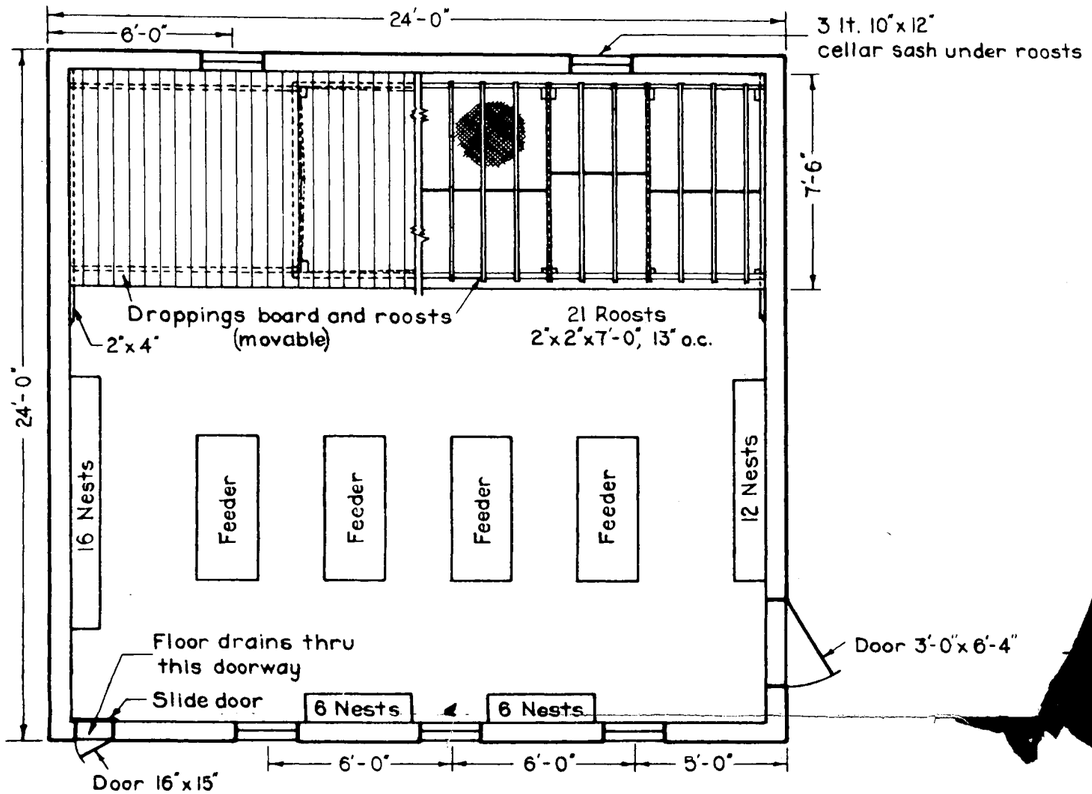
Droppings Boards and Roosts

The droppings boards are made of 1″×6″ flooring laid from front to back for easy cleaning. They are made in three sections. The center section is in the form of a table which can be moved as needed. Each end section is separate, one end resting on a wall support, the other resting on the end of the center section.

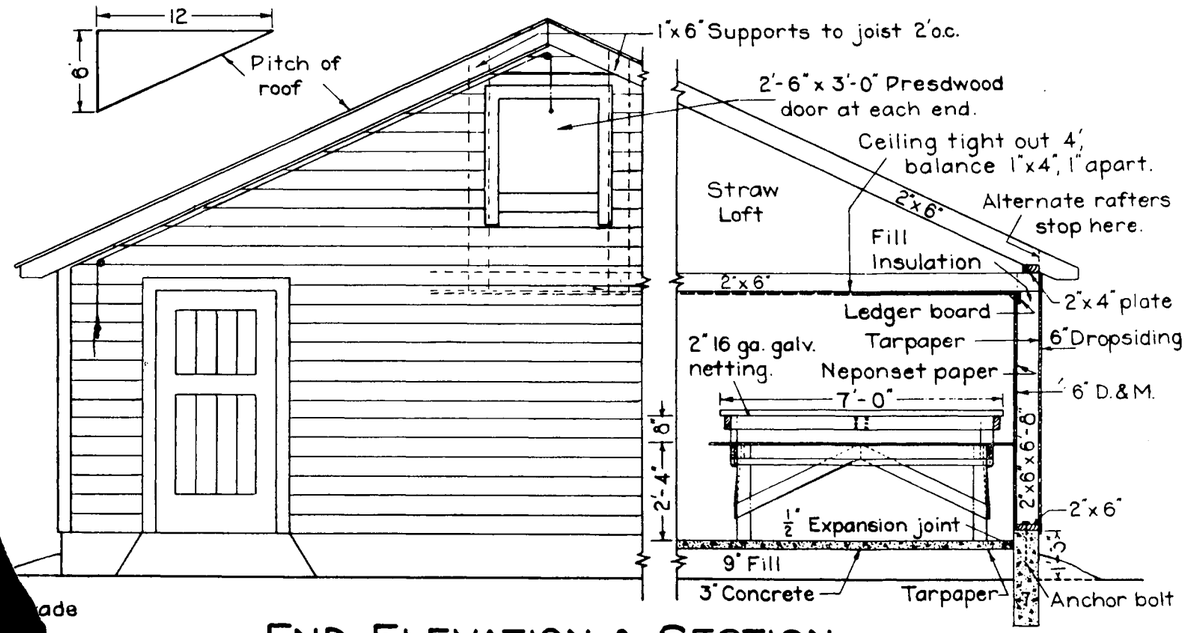
Droppings boards made in this way are easily removed for cleaning and for regulating summer ventilation.

Roosts

Roosts are 2″×2″, running cross-wise of the droppings boards on a 2″×4″ frame. Cover the frame with 2-inch 16-gauge galvanized chicken netting, brought down to the droppings boards in front and back so that birds do not have access to the droppings.

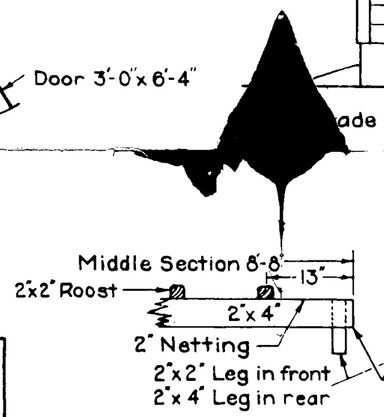


PLAN

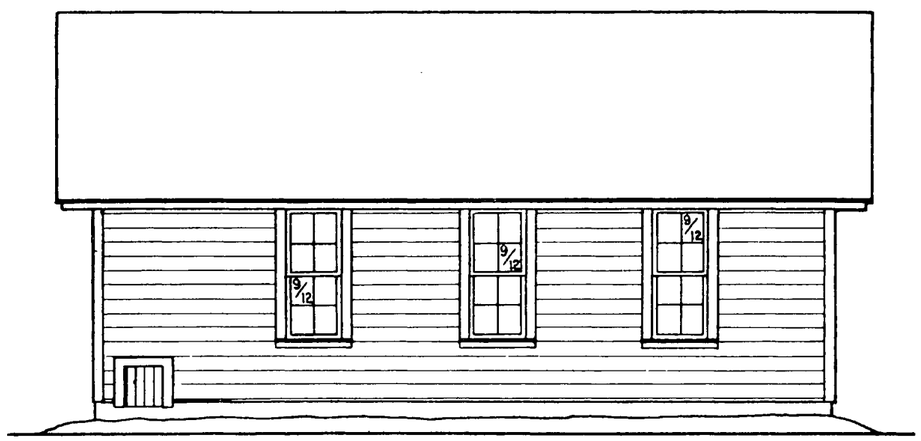


END ELEVATION & SECTION

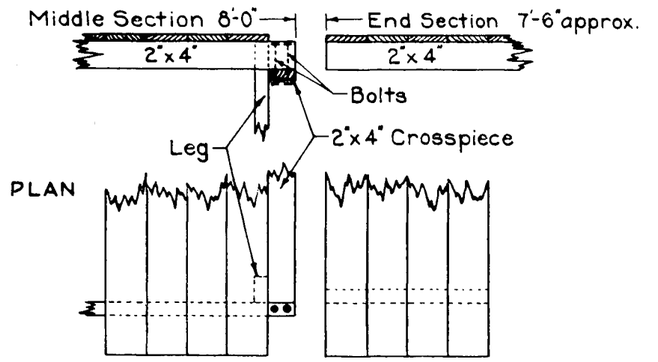
Scale : 1/4" = 1'-0"



ROOST SUPPORT



FRONT ELEVATION



DROPPINGS BOARD SUPPORT

DETAILS

(Sections Separated)

Scale: 1/2" = 1'-0"

STRAW LOFT

POULTRY HOUSE

(24 x 24 FEET)

Scale: 3/16" = 1'-0"

DIV. OF AGRI. ENGINEERING
UNIVERSITY OF MINNESOTA

PLAN Nº 200 | SHEET "S"

Bill of Material

Straw Loft Poultry House—24×24 Feet

Fill

Cinder or gravel—16 yards

Masonry

Wall—10 yards concrete, 1:2½:5 mix; cement, 52 sacks; sand, 4½ yards; gravel, 9 yards
Floor—1:2:4; cement, 36 sacks; sand, 3 yards; gravel, 6 yards
Carriage bolts—25, ½″×12″
Reinforcing steel for foundation, 8 pieces, ⅜″×24′
Reinforcing steel for floor, 22 pieces, ⅜″×22′
Expansion joint, ½″×4″, 96 feet.

Lumber and Millwork

Sills	6 pieces	2×6—16
Studs	35 pieces	2×6—14
Plates	3 pieces	2×4—16
Ties	13 pieces	2×6—24
Rafters	14 pieces	2×6—16
Rafters	12 pieces	2×6—14
Droppings board support	7 pieces	2×4—16
Roosts	12 pieces	2×2—14
Roost support	3 pieces	2×4—16
Roost support	6 pieces	1×4—16
Ledger boards	3 pieces	1×4—16
Tie supports	11 pieces	1×6—12
Roof boards and cornice	50 pieces	1×12—16
Cornice	16 pieces	1×4—16
Outside sheeting	126 pieces	1×6—16 drop siding
Inside sheeting	60 pieces	1×6—16 D & M
Ceiling	20 pieces	1×6—16 D & M
Ceiling	64 pieces	1×4—16
Droppings board	30 pieces	1×6—16 D & M
Droppings board braces	2 pieces	1×6—16
Shingles	30 bundles	No. 1 red cedar
Window frames	3 8 light	9×12 with pulleys
Windows	3 8 light	9×12 check rail
Storm sash	2 8 light	9×12
Basement sash	4 3 light	10×14
Door frames and rear window frame	4 pieces	1×8—12
	4 pieces	1×4—16
Doors	4 pieces	1×6—16 D & M
Cleats	1 piece	1×10—14
	2 pieces	2′-6″×3 presdwood
Tar paper	4 rolls	
Neponset	2 rolls	
Planer shavings	360 cubic feet	
Straw for loft	2 tons	

Hardware

Nails— 10 pounds 16d common
Nails—100 pounds 8d common
Nails— 20 pounds 3d galvanized shingle
Poultry netting—225 square feet, 16-gauge, 2-inch mesh, 60″
Poultry netting—18 square feet, 16-gauge, ¾-inch mesh, 36″
Poultry netting staples—1 pound, 1″
Ridge roll, 30 feet, 1½″
Ridge roll ends, 2, 1½″
T-hinges, 1 pair, 4″ light
T-hinges, 1 pair, 6″ heavy
Door latch, 1 only
Sash weights and cord, 3 windows
Turn buttons, 2 dozen
Awning pulleys, 4 only
Rope, 40 feet, ¼″
Bolts, 8, ⅜″×6″

Paint

Linseed oil, 1 gallon
Turpentine, 1 gallon
Paint, 4 gallons

Incidentals

Screen door
Inside storm door
Nests, feeders, and water stands

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